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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------|------------------|
| 10/707,214 | 11/26/2003 | Bruce Albrecht | ITW7510.073 | 1213 |
| 33647 | 7590 | 11/01/2005 | EXAMINER | |
| ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (ITW) 14135 NORTH CEDARBURG ROAD MEQUON, WI 53097 | | | SHARP, JEFFREY ANDREW | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3677 | |
| DATE MAILED: 11/01/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/707,214 | Applicant(s) ALBRECHT ET AL. | |
| | Examiner Jeffrey Sharp | Art Unit 3677 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

[1] This action is responsive to Applicant's remarks/amendment filed on 15 August 2005 with regard to the Official Office action mailed on 13 May 2005.

Status of Claims

[2] Claims 1-29 are pending.

Claim Objections

[3] Claim 9 was previously (inadvertently) objected to because of informalities. Applicant has successfully addressed these issues in the amendment filed on 15 August 2005. Claim 9, does have antecedent basis for a "plurality of recesses". Accordingly, the objection to claim 9 has been withdrawn.

Claim 16 is currently objected to for insufficient antecedent basis for "the plurality of ridges" (line 3).

Claim 17 is unclear as to whether Applicant intends *one* ridge, *all* ridges, or *some* ridges to have a height similar to a width of "the base". It is also suggested Applicant specify that each ridge has "a base" to provide antecedent basis for this limitation.

Claim Rejections - 35 USC § 112

[4] The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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[5] Claims 18-24 are currently rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended independent claim 18 such that the second end is formed "to non-interferingly engage a workpiece". The dictionary defines "interferingly" as "causing interference" or "creating hinderence".

in·ter·fere   **Pronunciation Key** (ĩn tər-fīr')
intr.v. **in·ter·fered, in·ter·fer·ing, in·ter·feres**

1. To be or create a hindrance or obstacle: *loud talking that interfered with the other patrons' conversations; assistance that only interfered.*
2. Physics & Electronics. To cause interference.

[Middle English enterferen, from Old French s'entreferer, *to strike one another* : entre-, *between* (from Latin inter-. See **inter-**) + ferir, *to strike* (from Latin ferīre).]

in·ter·fer' er n.

in·ter·fer' ing·ly adv.

engage

v

- 1: get caught; "make sure the gear is engaged" [ant: disengage]
- 2: keep engaged; "engaged the gears" [syn: mesh, lock, operate] [ant: disengage]

Source: WordNet ® 2.0, © 2003 Princeton University

It is not understood how said "second end" can "*non-interferingly* engage" a workpiece, as the two words seem to contradict each other. The term "engage" plainly means "to mesh or

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lock" and is synonymous with "interfere". One may consider the fact that a second end must "interfere" with a workpiece in order to "engage" it. Claims 19-24 suffer from dependency on deficient claim 18. The claims have been treated as they are definite.

Response to Arguments/Remarks

[6] Claims 1, 2, 4-11, 13-18, and 23-29 were previously rejected under 35 U.S.C. 102(b) as being anticipated by Rohe US-2,784,758. Claims 3, 12, and 19 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rohe in view of Duffy et al. US-5,685,680. Claims 20-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Rohe in view of Irimies US-5,493,833.

Applicant's arguments with respect to these claims have been fully considered, but are moot in view of the new ground(s) of rejection necessitated by amendment.

New Grounds of Rejection

Claim Rejections - 35 USC § 102

[7] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

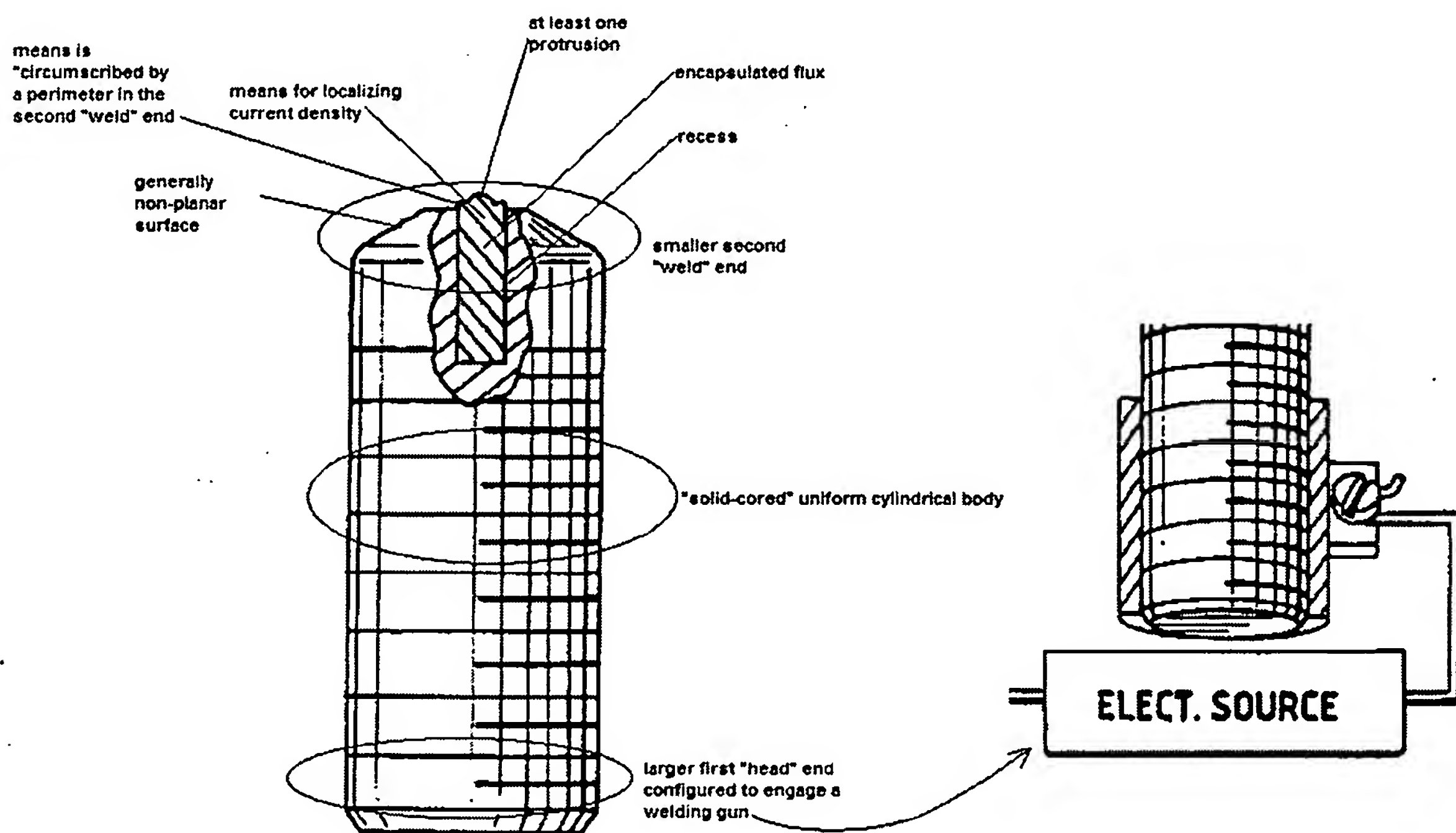
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

[8] Claims 1-3, 6, 10, 12, 18 (as it is understood), 19 (as it is understood), 23 (as it is understood), 24 (as it is understood), 25, 27, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Duffy et al. US-5,685,680.

In short, Duffy et al. teach a weld stud having a first "head" end, a second reduced end having a "nipple" or "at least one protrusion" to direct current flow to a "workpiece" or "connector". The body has a solid core with a generally uniform cylindrical shape. The second end is "generally non-planar surface". The second end comprises a "recess", and also comprises a flux packet which is "encapsulated". In its broadest sense, Duffy et al. discloses a "means for localizing current density generally uniformly about a majority of an area circumscribed by a perimeter of the face of the weld (i.e., second) end" of the stud.

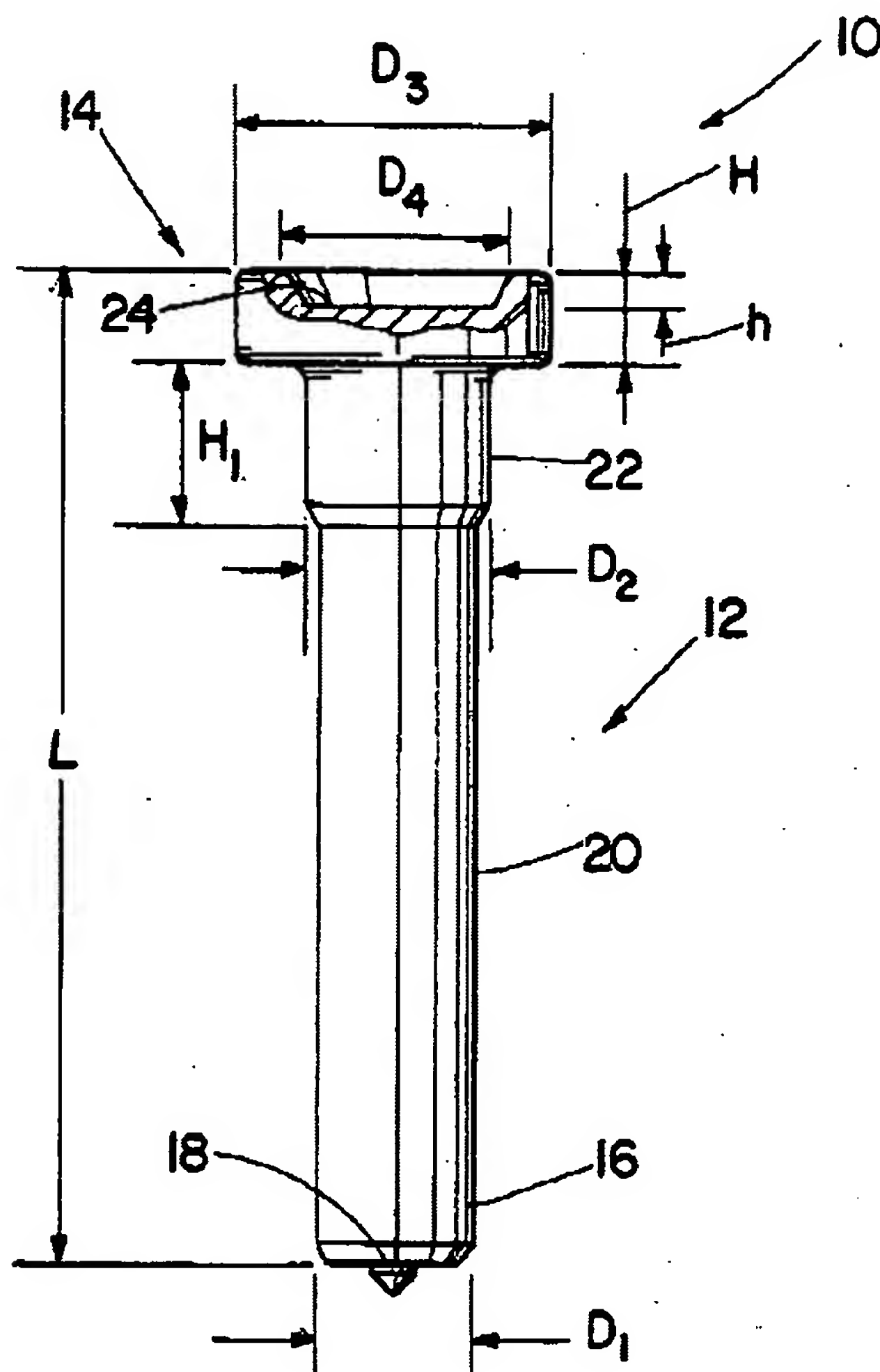


Duffy et al. US-5,685,680

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[9] Claim 1-3, 6, 7, 10, 12, 16 (as it is understood), 18 (as it is understood), 19 (as it is understood), 23 (as it is understood), 24 (as it is understood), 25, 27, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Irimies US-5,493,833.

In short, Irimies teaches a weld stud having an outwardly extending flange (i.e., "head") at a first end, a solid-cored cylindrical body, and a second reduced weld end adapted to be joined to a workpiece or connector, said second end having a recess from which at least one protrusion (i.e., encapsulated flux packet, "nipple") extends.



Irimies US-5,493,833

Claim Rejections - 35 USC § 103

[10] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

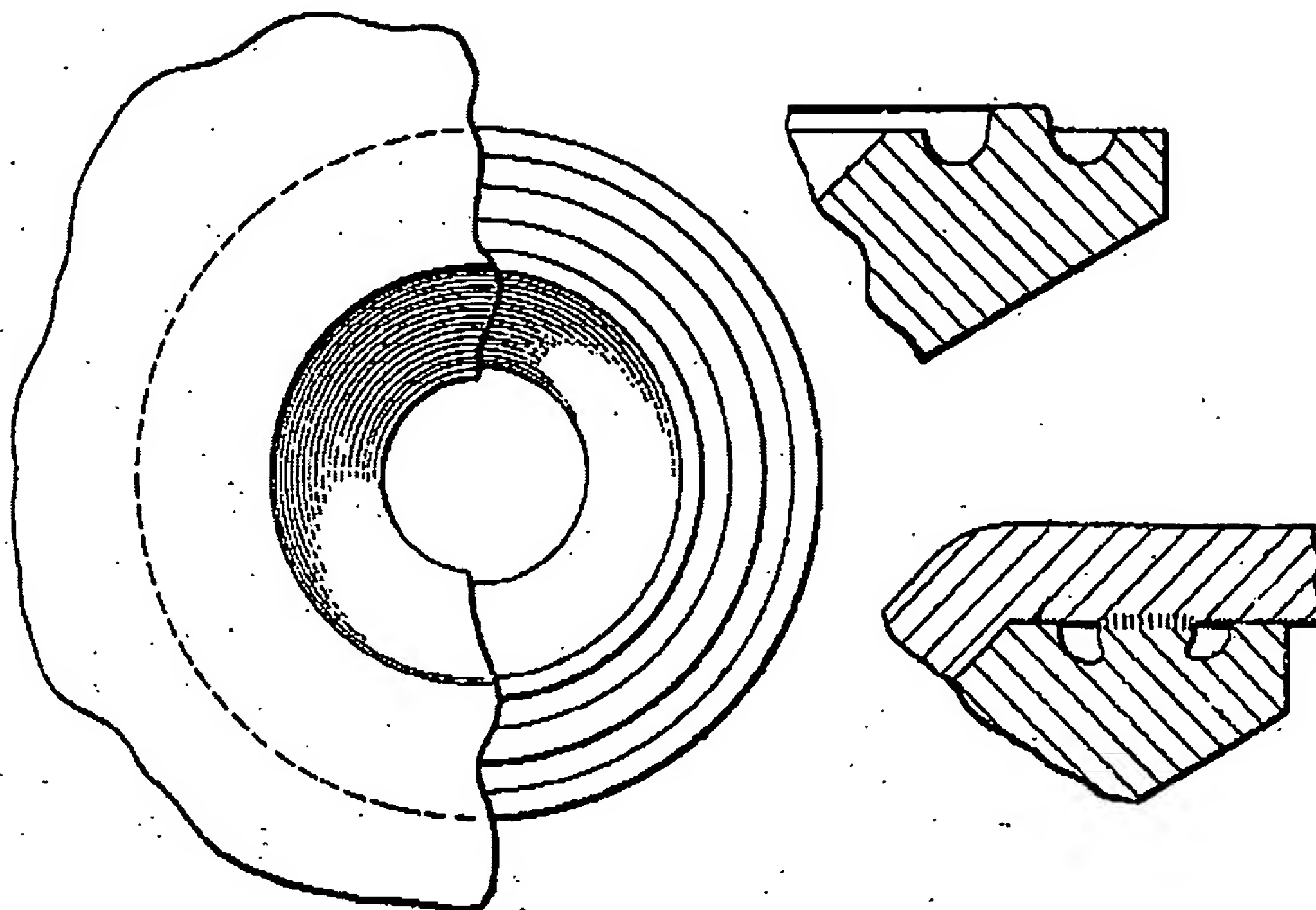
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[11] Claims 4, 5, 8, 9, 11, 13, 14, 15, 16 (as it is understood), 17 (as it is understood), 20-22 (as they are understood), and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duffy et al. US-5,685,680 in view of Rohe US-2,784,758.

In short, Duffy et al. teach each and every limitation found in claims 1-3, 6, 10, 12, 18 (as it is understood), 19 (as it is understood), 23 (as it is understood), 24 (as it is understood), 25, 27, 28, and 29

However, Duffy fails to disclose expressly, employing a plurality of ridges and grooves on the second (i.e., "weld") end.

Rohe suggests an improved welding second surface for a weld stud comprising a plurality of annular, concentric, ridges and grooves (i.e., "recesses"), so as to 1) enable the stud to be welded to thin substrates, 2) provide an advantageous means for locating, 3) to centralize and localize welding currents in a dispersed and even manner, and 4) to concentrate the welding temperature at the ridges. These ridges and grooves could also provide aesthetic advantages, prevention of weld splash, and/or a channel means for guiding flux evenly around the stud.



Rohe US-2,784,758

At the time of invention, it would have been obvious to one of ordinary skill in the art, to modify the second "weld" end taught by Duffy et al., by providing a plurality of annular, concentric, ridges and grooves (i.e., "recesses") as suggested by Rohe, so as to 1) enable the stud to be welded to thin substrates, 2) provide an advantageous means for locating, 3) to centralize and localize welding currents in a dispersed and even manner, and 4) to concentrate the welding temperature at the ridges. These ridges and grooves could also provide aesthetic advantages, prevention of weld splash, and/or a channel means for guiding flux evenly around the stud.

As for claims 20-22, although these claims have been treated as generally product by process limitations, it would be obvious to form a plurality grooves and ridges using any desirable conventional method such as etching, stamping, and machining.

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Conclusion

[12] Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

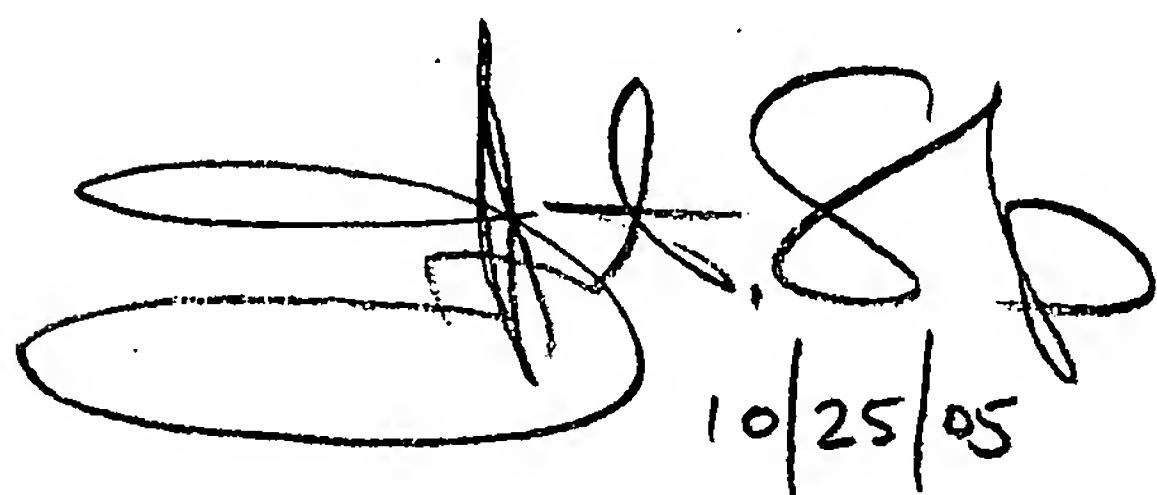
[13] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (571) 272-7074. The examiner can normally be reached 7:00 am - 5:30 pm Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (571) 272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

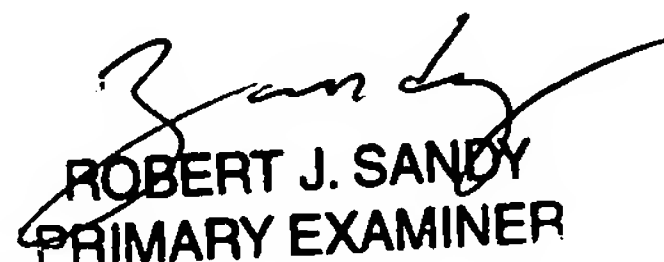
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAS



10/25/05



ROBERT J. SANDY
PRIMARY EXAMINER